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regiments, that you cannot handle them as individuals. That is why schools, and the president has said colleges, ought not to be too large. There is a vast amount of labor that you can do in this way of individual influence. If, as a matter of fact, you cannot reach every one, you must reach the leaders, as Governor John A. Andrew said in his valedictory address about the South. He said, "It is of no use to talk about the average people in the South; we have got to communicate with the leaders, the natural leaders. They led her into the war; they only can lead her out." The leaders will always appear in school. They will always have their influence. You guide, as Dr. Arnold said in his school, by the old sixth form. Those persons, if they are inspired by you, if you have hypnotized them thoroughly, so to speak, with your spirit and your life, your influence will work through them and leaven the lump. It is a great thing to have the leaders right and to have them direct the school.

Ours is a noble profession. I am proud to have had an humble part in it; and I am also proud, ladies and gentlemen, to have been called before you to address you (applause).

EVENING SESSION

The association met at 7:30 P. M., President Eliot in the chair.

THE PRESIDENT: Ladies and gentlemen—We are to have the pleasure this evening of listening to the president of Yale University on a subject in which everyone of us has a keen and permanent interest. I present to you President Hadley.

CONFLICTING VIEWS REGARDING ENTRANCE EXAMINATIONS

PRESIDENT ARTHUR T. HADLEY,
Yale University.

My best apology for contributing one more to the already over-numerous utterances on this theme is that what I have to say this evening is in some measure aside from most of the special aspects of its discussion, which have formed the field for so many educational battles. It does not touch upon the problem of extending or contracting the requirements for admission. It does not solve the question of separate examinations or common examining boards. It does not bear, except by indirection,

upon the conflict between the champions of certificates and examinations, which will form one of the prominent themes of tomorrow morning. It deals with a question which is in one sense wider than any of these—the question of the purpose for which entrance examinations have existed, and the different underlying ideas with which men have handled them. I am not without hope that the treatment of the subject from this standpoint will tend to clear up many of the misunderstandings which have at various times arisen, and, while it is too much to expect that it will help to a speedy agreement on matters where the views of different individuals are so divergent, I believe that it will at least help us in taking that first step toward agreement without which all discussion is profitless—that step which consists in arriving at a real understanding of the reasons for difference between one's self and his opponent.

In the very earliest stage of college examinations—which lasted, with some modifications, until about the middle of the present century—they were designed solely and simply to test the fitness of the student to go on with his class. They were quite generally oral. They were conducted by the various professors; in the case of advanced students, the president himself would not infrequently go over the whole ground in what was in parts more like a conversation than an examination. There were, indeed, certain studies on which the candidate was supposed to have prepared himself for these tests; but the whole matter was so informal that not only were equivalents for the prescribed studies accepted with the utmost readiness, but if the candidate showed a knowledge of the several subjects which seemed to fit him for class-room instruction, insistence upon any such equivalent was readily waived.

But as time went on this method of examination broke down by its own weight. With this passing of the day of small things, the opportunity for this close personal relation was no longer left in the examination hall. The oral inquiry gave place to the printed paper. The first effect of the substitution of this system of written examinations was a great increase in the amount of examining actually done. Under the old system the expert

professor, by a few well devised oral questions, could readily make up his mind as to the ability of the candidate before him. Under the new system such swift recognition of ability was impossible. Instead of varied inquiries, adapted to the needs of different candidates, the examiner was compelled make out a paper whose different parts should cover varying needs. In order to contain something for each man, it contained too much for any man. Nor was it enough to make longer papers in each subject. It became necessary to cover more subjects by an actual and serious examination; not because it was necessary to prove that the candidate knew everything which the papers contained, but because in this way, and in this way only, could the effect of good luck and bad luck be reduced to a minimum. A well-prepared student might by bad fortune fail on a small number of papers; it was less likely that he would fail on a large number.

If entrance examinations are to be regarded as a test of ability to go on with the work of the college, our present methods of handling them can only be defended on this theory. We are making a rough application of the doctrine of chance. We admit a student who is conditioned in arithmetic if he does well in algebra; not because a man who is defective in arithmetic can properly attend a college course, for the man who does not know at least the elements of arithmetic had better go back to school at once, but because we feel that the chance is that the arithmetic paper did not do the boy justice, and we wish to reduce the possibility of such error in the individual case to a minimum by giving him a chance on different papers with different examiners. But in point of fact, our authorities have, for the most part, ceased to treat entrance examinations as tests of ability to go on with college studies. They have become examinations on the extent of past work, rather than on the power for subsequent work.

Not that this matter is clearly avowed, or even understood. In fact, one of the things which most complicates the discussion of the whole examination problem, is that men so often oscillate between these two conceptions. An examination on extent of

past work has certain uses and should be handled by certain methods. An examination on power for future work has certain other uses and should be handled by certain other methods. Confusion between the two is likely to be productive of evil. For, when the entrance examination becomes a test of the extent of previous study rather than of degree of present ability, the character of its usefulness to the college changes totally. It no longer remains a means of securing well-prepared students to the institution, except in this indirect way: that by requiring the preparatory schools to handle a certain range of subjects and train their pupils to pass certain more or less well-devised examination papers on these subjects, good sources of supply of collegiate students are assured.

If an examination system does this, it on the whole does its work well. If, however, the system as at present conducted fails to do this, it imperatively requires modification.

The present system, in its effect on the preparatory schools, cannot be pronounced either a brilliant success or a glaring failure. That good schools have grown up under its influence, and that boys as a whole are better prepared for college now than they were twenty-five years ago, I think we can say without hesitation. But that the progress in this respect has been as great as in many other departments of our educational life I think is not certain; and it has been attended by a retrogression in some places where we should least expect this result. The increased attention to the study of English literature, for instance, which has been hailed with delight as a means of causing greater attention to be paid to the English language, has been accompanied by a certain amount of deterioration in the character of the English actually used by those entering college. Increase of extent in English study, under the present system, so far from having been accompanied by increase in power has been attended by its diminution. The new school curricula, in spite of many features which seem so much better than the old, leave a large number of the candidates worse prepared in a most essential respect in the most important of all tools for intellectual use.

I do¹ not believe that this result is primarily due to any error in the construction of the English papers, or in the detail of the English entrance requirements. I do not believe that in other lines, where similar results have been observed, the fault rests mainly with the examiner, or with the course of study laid out. I am inclined to think rather that it rests with that whole system which would make the college examination a test of the extent of previous preparation.

Up to this point I might seem to be doing little more than to restate the arguments of the advocates of the certificate system. But there is an alternative which many of these advocates do not recognize. We are not restricted to the choice between examinations to test extent of knowledge, on the one hand, and admission by certificate, on the other. May not the examination be brought back nearer to its old function as a test of power? May we not have, in the place of a large number of examinations which are intended to test the range of the student's knowledge, a relatively small number of papers which test the ability of the student to perform the work which he is subsequently called upon to do; leaving to the certificate of the school, or to the determination of a general examining board in the case of candidates who do not come from accredited schools, the *prima facie* settlement of the question what range has been covered by the candidate's previous studies? Under a system of this kind the special examinations in each college might be made comparatively few—not more than one paper in each language, and perhaps two in mathematics. Those papers would not deal with subjects which could be crammed, but with those in which training was necessary and in which the results of training were decisive. They would be of such a character that the student who could pass these examinations successfully would be competent to go on with his future studies, even if the extent of his preparation was slightly deficient. But, on the other hand, they would be of such a character that the student who failed in any considerable number thereof ought, for his own good and for that of the college, to be prevented from going on, from probable lack of power to handle the studies of the class.

The adoption of this view would have the advantage of enabling the college to reduce its papers to a manageable number, and give greater care than is now available for a really thorough reading of their results. It would prevent the candidate from being as much hurried as he is under the existing system. It would allow the masters of the preparatory schools choice of methods in many of the most important subjects, whose teaching is now dominated by the necessity of cramming the student for a particular kind of examination. Above all things, it would tend to eliminate as a factor in success the results of such skillful cramming which now makes many an inferior boy produce a better showing than his fellows whose education for the work of college and the work of life has not been sacrificed to the exigencies of preparation for a momentary end.

The chief objections which occur to me as likely to be urged against the view may be stated as follows :

1. The attempt, which has been more than once made, to lay special stress on tests of power rather than on knowledge—for instance, sight reading of Latin and Greek authors, translation of English into Latin, etc.—has disappointed the expectation of its advocates.

2. In the inevitable uncertainty attending the results of entrance examinations—due partly to luck, partly to the personal equation of the examiner, and partly to the varying physical conditions of the candidates—the substitution of a small number of decisive examinations for the very great number now existing will cause some candidates to be unjustly rejected who under the present conditions atone for their deficiencies in some lines by indication of ability in others.

3. The necessary withdrawal from the examination scheme of subjects like history, descriptive botany, or parts of the English papers, will serve to give them an apparently inferior position, and will result in their neglect in those schools which desire to prove their success on the basis of the showing made by their candidates in college examinations.

Let us take up these points in order.

1. It is, I believe, true that the attempt to make excellence in sight translation a decisive test of knowledge of classical languages was attended with very considerable harm. But this harm was quite as likely to have been due to the defective understanding of methods of making the examination a test of power as to any inherent difficulty in the system itself. The old-fashioned Latin composition papers, made up by teachers who had been themselves trained in the school of Kerchever Arnold and *per me stat quominus*, were not really tests of power, but cram papers of a bad sort. The same thing may be said of most of the examinations in sight reading of classical authors. They were at best no test of the kind of power which is required by the student in his collegiate life. That student must learn to read classical authors with a dictionary, and he must have the accurate knowledge of the grammatical construction which is requisite to do this. But most sight papers depend far more upon the quick command of a vocabulary, in times when the candidate is specially nervous, than upon knowledge of linguistic structure. In the easy Latin or Greek which was generally given out on these papers, the candidate who can remember the vocabulary can guess at the structure far better than the candidate who knows the structure can extemporize the vocabulary. Nor can this difficulty in the sight paper be wholly avoided by notes which give the meaning of a few words; for those words which help one boy may prove useless to another. The partial failure of sight papers to accomplish their ends proves chiefly the defectiveness of the means, and little or nothing as to the unattainability of the end.

Of course it may freely be admitted that it would require great ability to carry out the proposed plan by right methods instead of wrong ones. It would perhaps be a number of years before we should know what furnished, on the whole, the best means of testing the student's power. But I feel quite confident that nothing which has hitherto been done indicates that the question could not be fairly well solved in a reasonable time.

2. The argument concerning the dangerous fewness of the papers under the proposed plan deserves careful consideration.

Anyone who knows the uncertainty attending the results of examinations in general, and of written examinations in particular, will be reluctant to reduce the variety of chances given to the student to prove in different kinds of papers his probable fitness for any course which he desires to undertake. Yet I believe that whatever dangers lie in this way would be balanced by the increased care of reading which the substitution of the few papers for the many would render possible; and that by giving to teachers of proved ability the opportunity to recommend, at the risk of their own reputation, for provisional admission to our freshman classes, pupils whose failure in several of these examinations under the new system would otherwise have kept them out, we should have a check which would, for obvious reasons, not be greatly liable to abuse, and which would protect nearly all the deserving students from the consequences of ill luck.

3. The objection on which most stress is likely to be laid by the teachers in schools is that of unfair discrimination between different studies. It is unquestionably true that where competition is keen—most noticeably, perhaps, in the case of New York City—the teachers desire to show their success as teachers by the success of their students in examination, and that if a line which they greatly desire to teach and are successful in teaching is omitted from the paper, they feel that they are unfairly handicapped in their efforts to do it justice. I do not deny that there is force in this objection; but I believe also that on those very lines the evil of the present system tends to outweigh the good. Suppose that a school has a teacher of special ability in interesting his pupil in the study of history. History examinations by the colleges give him an opportunity to display this ability. They also give him a temptation to misdirect it, in order to lay special emphasis on those questions which are likely to be asked. No construction of the history papers, however skillful, will wholly avoid this danger. It lies outside of human ability to devise a paper which shall test the candidate's power to use the results of history, in the way that any reasonably good paper in arithmetic can test his power to use the results of arithmetic. From what little observation I have been able to make, I am

convinced that the evil effect of the misdirection outweighs the good effect of the stimulus ; that the net effect of the examination, on the whole, is to make history be worse taught instead of better taught. And what is true of history holds true in but slightly less degree of a number of other subjects. It is proverbial that papers to test the extent of reading in English literature, and even the careful study which has been devoted thereto, are no test either of appreciation of literature or of knowledge of English. That the existence of these papers causes some attention to be paid to the study of English in schools is a good result, which I have no desire to depreciate ; but I cannot help emphasizing the evil effect in making that teaching deal more with the externals of literature, with its accidental surroundings, that have no bearing on the very heart of the matter, and in lessening by neglect that effect on power of English expression which is the most universal need of the student at the present day.

I have made these suggestions definite and concrete, not because I am sure of the excellence of any definite plan which could be laid down at the moment, but because of the importance of getting an idea put into concrete shape and clothed in tangible forms. Let me end by coming back to this underlying idea or theme in its more theoretical expression. Our colleges, under the exigencies of the situation, have gradually passed from a time when their examinations were a test of ability to handle the studies of a college course, to one where they are a test of the extent of previous study, and where, if they exist at all, their form is shaped by the needs of the schoolboy rather than of collegiate student. The studies on which the college examines for the school's sake are those in which the danger of cram is far greater than those on which it examines for its own sake. The evils of this state of things, in the multiplicity of examinations and the encouragement of doubtful methods of work, have made themselves obvious. Let us abandon the attempt to treat these questions as though entrance examinations and entrance requirements were synonymous. Let us cease to make the college examination primarily a means of influencing

the range of school work, and make it a test of its quality. In so doing we may for a moment deprive the teaching of certain subjects of an artificial stimulus which the advocates of the extension of those studies greatly desire; but I believe that such loss will be many times outweighed by the promotion of good teaching methods and good ideals in education as a whole.

DISCUSSION

THE PRESIDENT: President Hadley has drawn attention to the difference between examinations for quantity and examinations for power. It is the latter, the examination for power, which should be our ideal. That is what we want from candidates for university degrees, and what schoolmasters want from their graduates. Much has been done within the last twenty-five years to promote such examinations. The examinations in sight reading of the languages are tests of power. So are the laboratory examinations to which much attention has been paid within twenty-five years. Put a laboratory problem before the pupil and see if he can solve it with his memory and his eyes and fingers. Ask him to solve a geometrical problem which he has never seen before. These are tests of acquired power.

With regard to the range of subjects in which examinations are given, it must be confessed that it is enlarged. It is enlarging every day. Who is responsible for the enlargement? Have the colleges determined it, or the schools? To the best of my knowledge and belief, it is the schools and not the colleges. The independent secondary schools have introduced new subjects, enlarged the range of their efforts, and improved their methods, until the colleges have seen it to be their interest to recognize a larger range of studies than formerly as qualifying for admission to college.

With regard to the importance and merit of the examination system, opinion has changed within ten years. There was a time when examinations were looked upon as necessary evils; now they are regarded in the colleges and universities as absolutely good in themselves, though this is not so clearly seen in the schools. Examinations are the same kind of test that comes to mature

men every day. Here is a telegram of forty words to which a reply should be sent in ten. Here is a letter of a thousand words which should be answered in fifty. Every professional man is examined severely, every day of his life. He is forced to bring to the examination every idea, and all the skill, that he has. The surgeon is suddenly called upon to perform the operation for appendicitis; some men, indeed, twenty a week, and no two alike. In each operation every bit of his knowledge of the anatomy of those parts may be brought into play, and he works under stress of excitement and responsibility. The test is very much the same in kind as the sudden examination of a pupil at school, but fiercer. So with the lawyer; every case in court involves a cram and an examination. The trouble with school examinations is that it is difficult to offer children appropriate tests of their power. This is the point at which we have failed.

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The next item of business is the report of the committee to confer with the Commission of Colleges in New England on Admission Examinations. This report relates to admission to college by certificate and by examination. It will be presented by the chairman, Mr. Ramsay, of Fall River.

MR. CHARLES CORNELL RAMSAY, Principal of the B. M. C. Durfee High School, Fall River: Mr. President, ladies and gentlemen—I take pleasure in submitting to you at this time, as chairman of your Committee of Conference with the New England College Commission, our

REPORT ON ADMISSION TO COLLEGE ON CERTIFICATE AND BY EXAMINATION

Before your committee was assigned the duty of investigating and reporting on the two methods of admission to college now in use, it was doubtless believed that a difference of opinion on the subject existed among school and college teachers; and the results of our work, which later in this report I have summarized, clearly justify such a belief. The question is, therefore, a *debatable* one.

Allow me to call your attention, at the threshold of the subject, to

I. SOME GENERAL OBSERVATIONS

In the serious consideration of any important question, it is desirable—indeed, it is necessary—to find a fundamental basis upon which the discussion